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Indian Standard

AUTOMOTIVE VEHICLES — TRANSMISSION SYSTEMS — GLOSSARY

PART 3 DRIVE AXLES DEFINITIONS

UDC 629·113·012·1 : 001·4

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

March 1991

Price Group 3

Automotive Transmission System Sectional Committee, TED 3

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Transmission System Sectional Committee had been approved by the Transport Engineering Division Council.

This standard is being published in three parts. Other parts are:

Part 1 General definitions
Part 2 Universal joints and drive shafts

In the preparation of this Standard considerable assistance has been derived from SAE J 923 : 1978 'Axles — Nomenclature and terminology'.

Indian Standard

AUTOMOTIVE VEHICLES — TRANSMISSION SYSTEMS — GLOSSARY

PART 3 DRIVE AXLES DEFINITIONS

1 SCOPE

This standard defines the terms used in common designs of axles for automotive drives.

2 TERMS AND DEFINITIONS

2.1 Unitized Carrier Housing Construction

This construction is one in which the housing that supports the drive gear, bearings and differential case, also supports the vehicle load carrying members (*see* Fig. 1).

2.2 Separable Carrier Housing Construction

This construction is one in which the carrier that supports the drive gear bearings and differential case, is separable from the housing that supports the vehicle loads (*see* Fig. 2).

2.3 Straddle Mounted Pinion

This construction is one in which the drive pinion teeth are supported between bearings. The straddle mounted pinion could be used with either **2.1** or **2.2** construction (*see* Fig. 3).

2.4 Overhung Mounted Pinion

This construction is one in which the pinion teeth are supported by bearings only on tail side. The overhung mounted pinion could be used with either **2.1** or **2.2** construction (*see* Fig. 4).

2.5 Multiple Pinion Differential

These designs represent parts of multiple pinion differential that may be used with either **2.1** or **2.2** general construction (*see* Fig. 5).

2.6 Semi-Floating Axle Shaft

In this type of construction the shaft carries axle loads as well as torque. Various types of wheel bearings, such as, ball bearings or roller bearings are used with this construction. The shaft may have an integral or separable flange (*see* Fig. 6).

2.7 Full-Floating Axle Shaft

In this type of construction the axle shaft does not carry axle loads but only transmits torque. The vehicle loads are transmitted through bearings, direct to the axle housing (*see* Fig. 7).

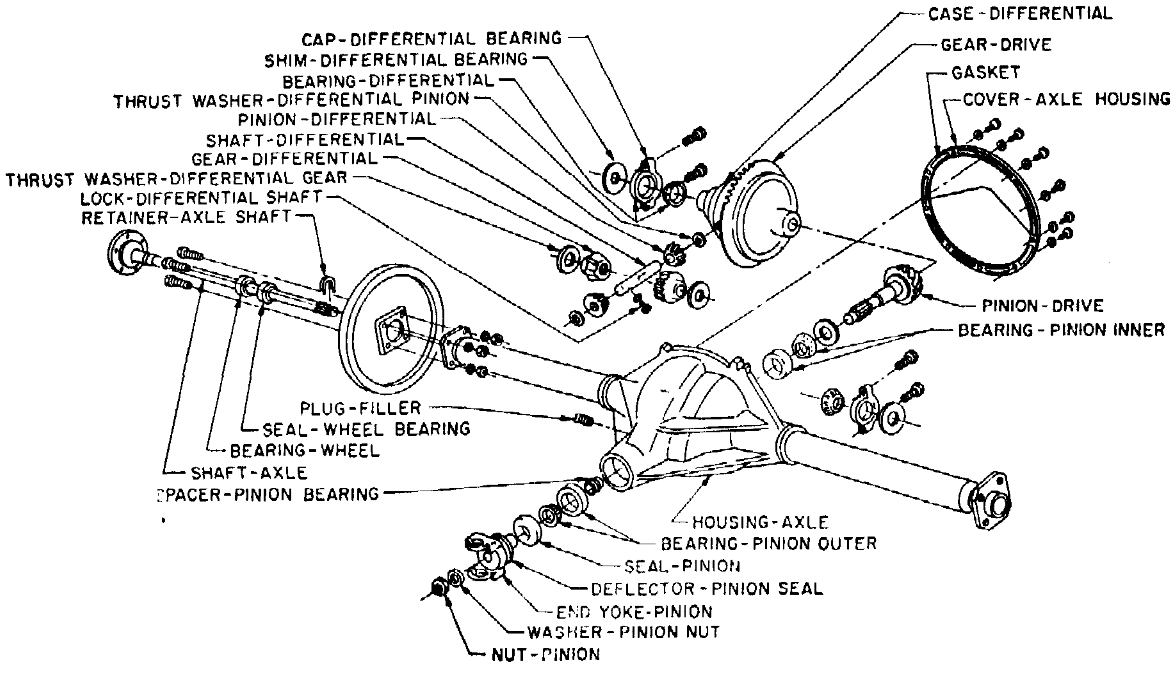

FIG. 1 UNITIZED CARRIER HOUSING CONSTRUCTION

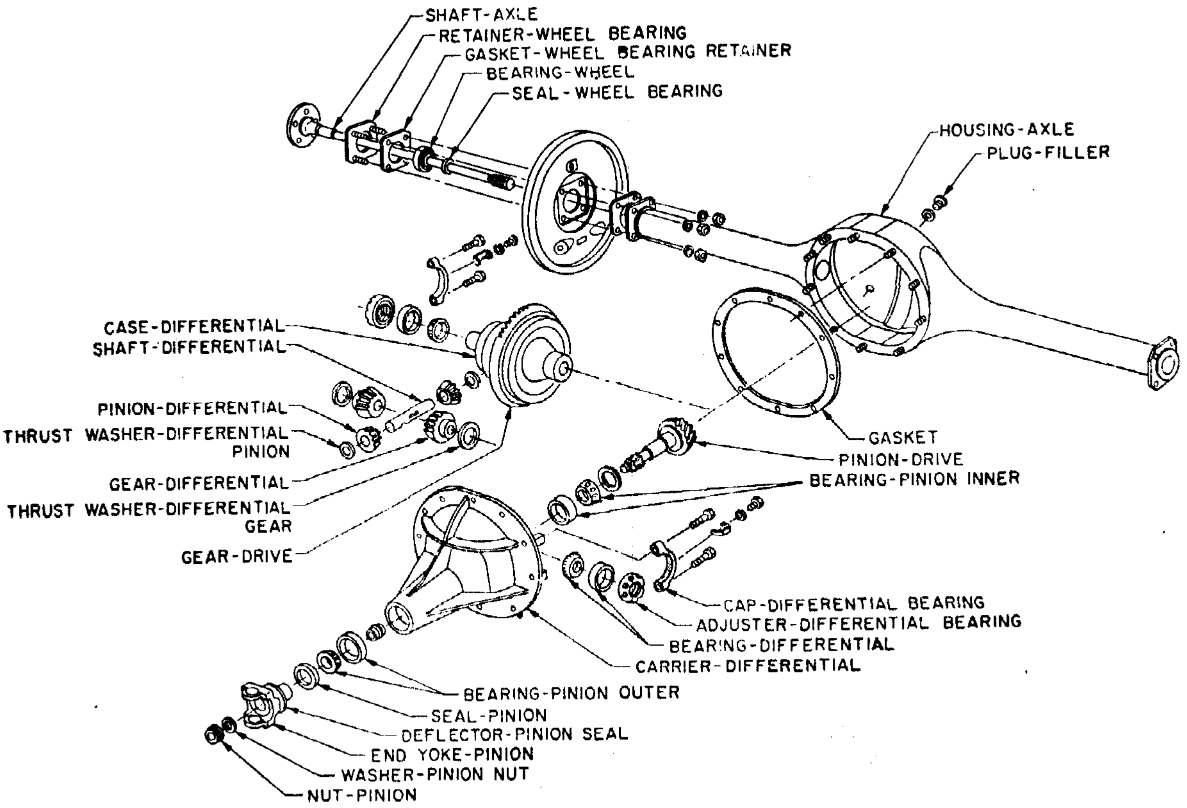

FIG. 2 SEPARABLE CARRIER HOUSING CONSTRUCTION

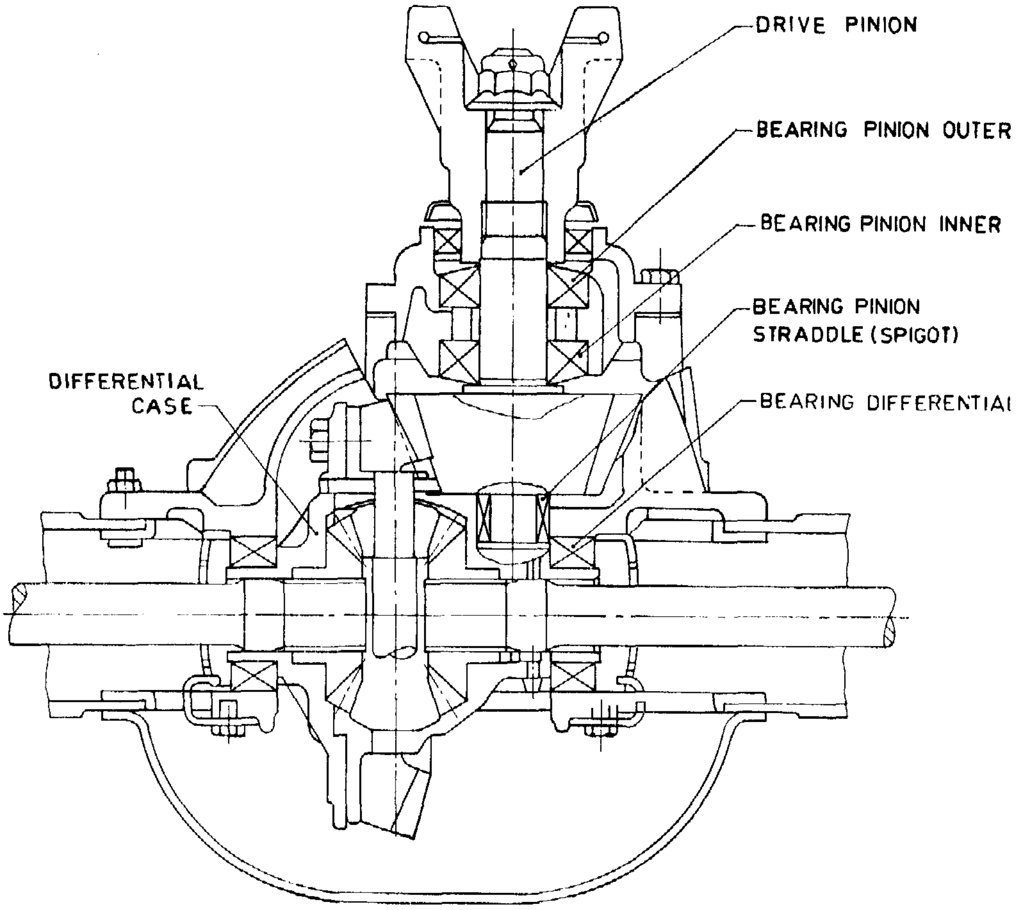

FIG. 3 STRADDLE MOUNTED PINION

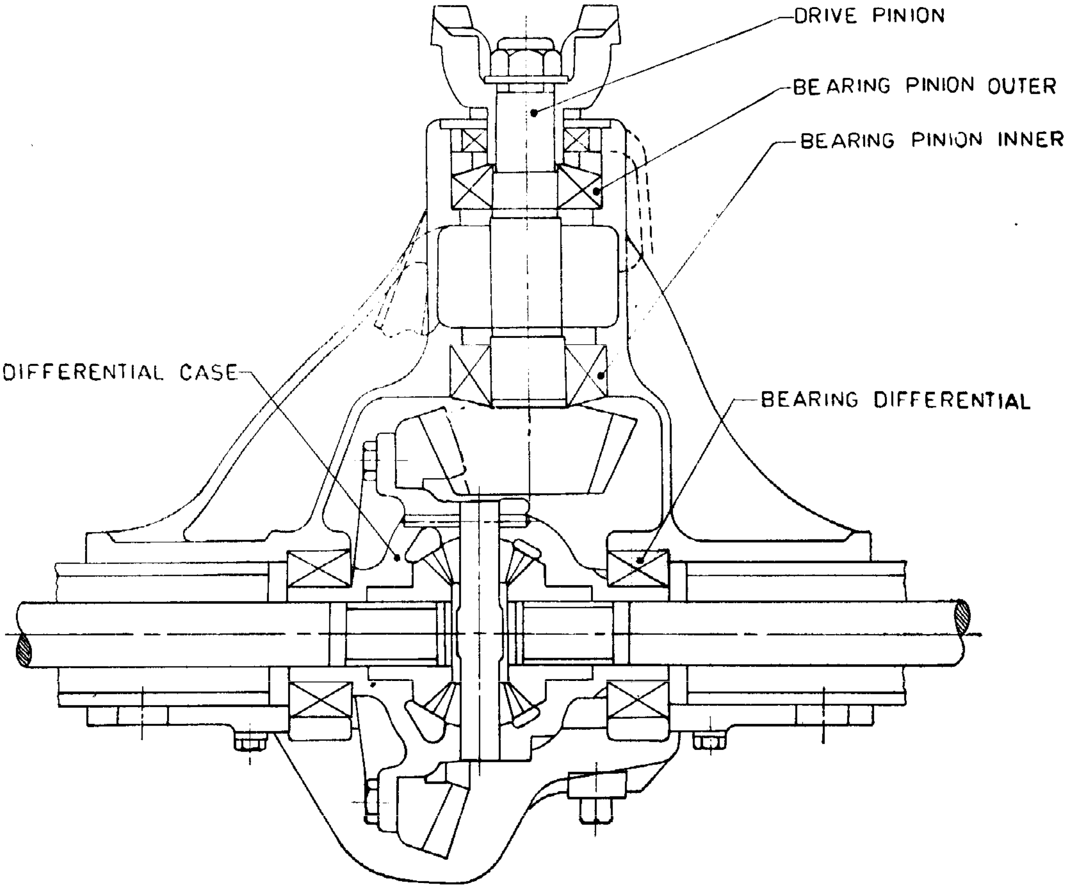

FIG. 4 OVERHUNG MOUNTED PINION

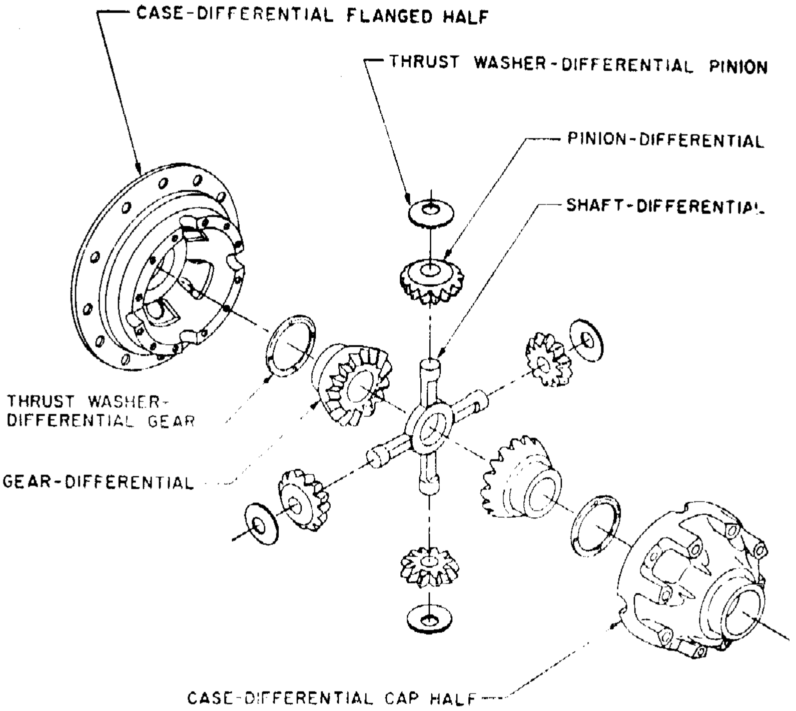
CASE-DIFFERENTIAL FLANGED HALF
THRUST WASHER-DIFFERENTIAL PINION
PINION-DIFFERENTIAL
SHAFT-DIFFERENTIAL
THRUST WASHER-DIFFERENTIAL GEAR
GEAR-DIFFERENTIAL
CASE-DIFFERENTIAL CAP HALF

FIG. 5 MULTIPLE PINION DIFFERENTIAL

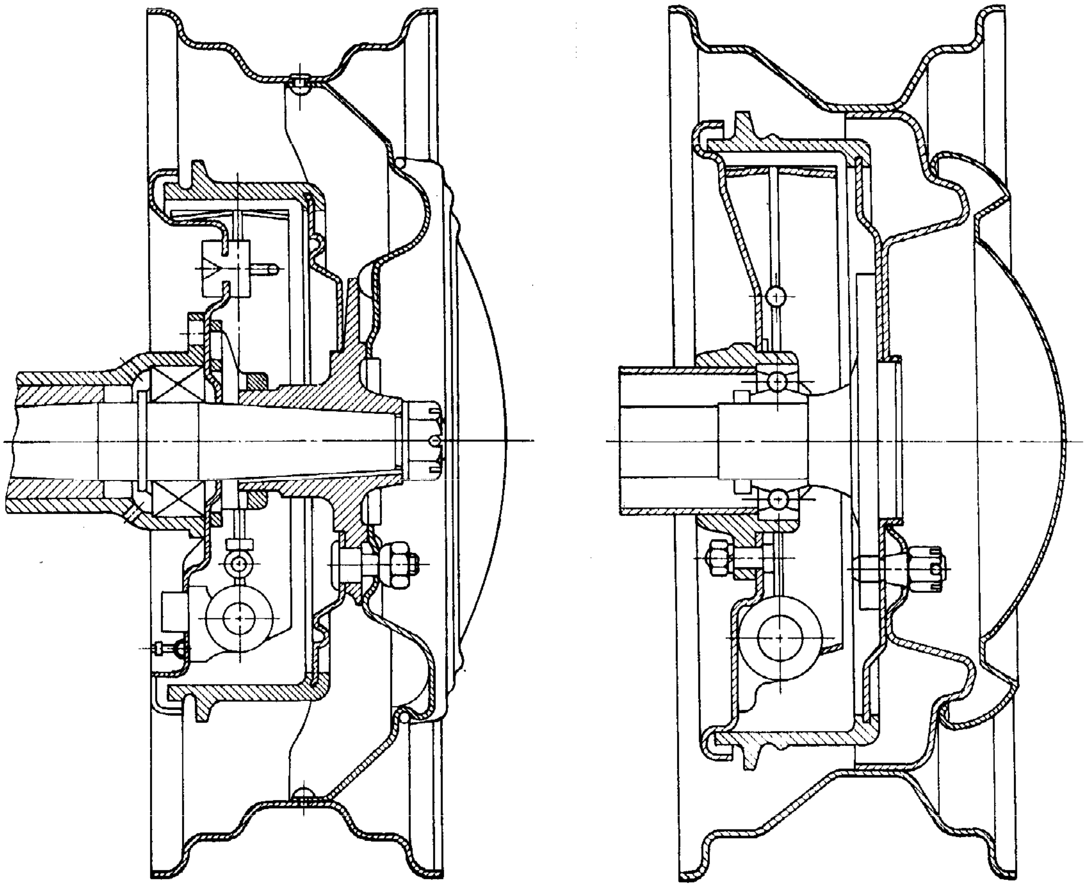

Fig. 6 Hub Bearing Arrangement for Semi-Floating Axle Shaft

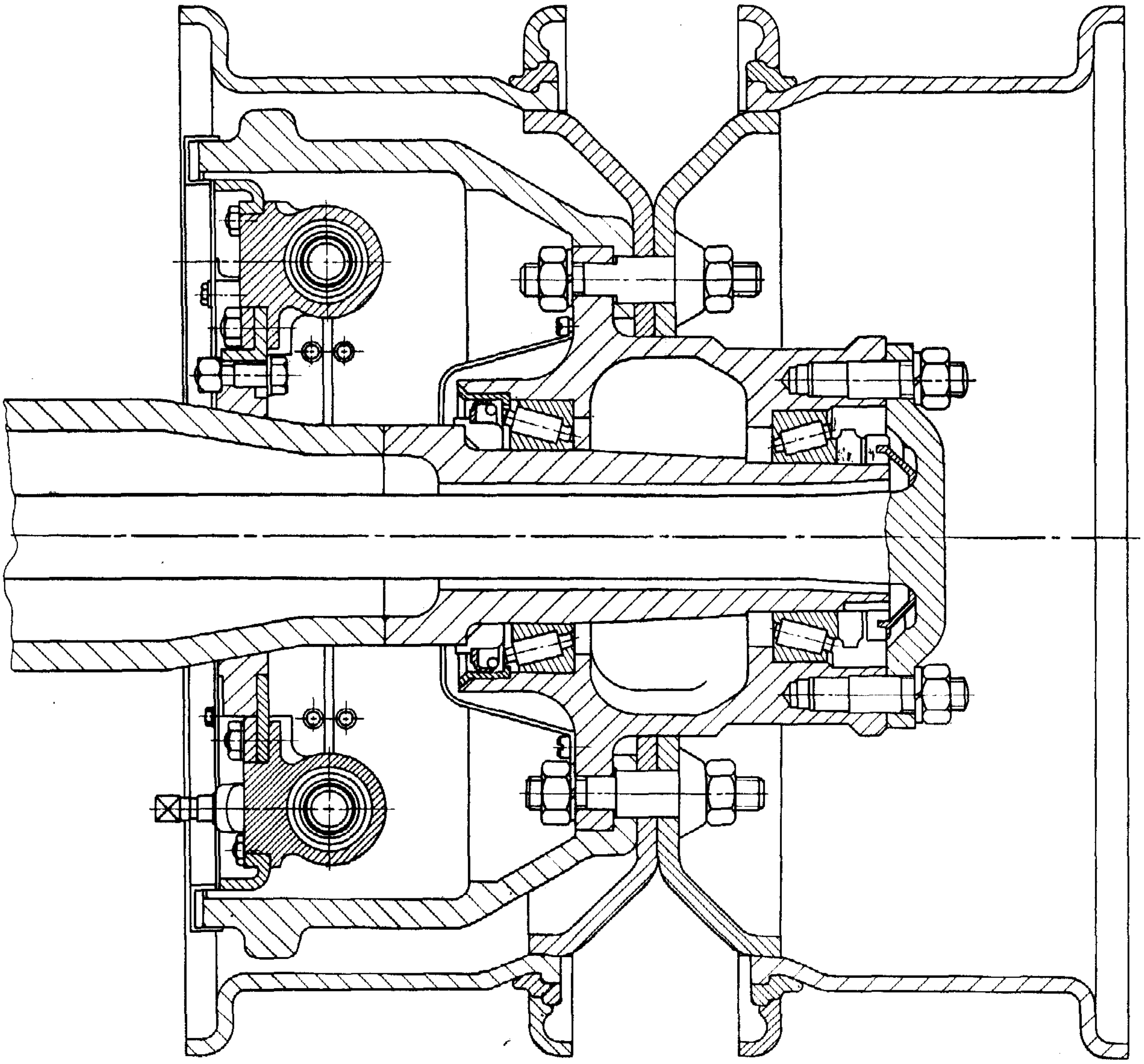

FIG. 7 HUB BEARING ARRANGEMENT FOR FULL-FLOATING AXLE SHAFT

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